STANFORD UNIVERSITY

DEPARTMENT OF STATISTICS

DEPARTMENTAL SEMINAR

4:15 p.m., Tuesday, March 1, 2005
Sequoia Hall Room 200
(Cookies at 3:45 in 1st Floor Lounge)

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Goodness of fit tests using asymptotic approximations

Abstract:

It is well known that estimating an unknown smooth density from n independent observations can be approximated by estimating the mean of a continuous Gaussian process. A transformation of the independent observations yields approximately normal increments of a Brownian Motion with drift process. As an application of this approximation, I consider a simple goodness of fit test. The Gaussian approximation provides a way to calculate the level and power of a Kolmogorov–Smirnov type test. This test can be compared to a chi-squared test based on binned data which is a lieklihood ratio test under restricted conditions.